

Listing of Claims

1. (original) An apparatus for accumulating different types of individual articles, said apparatus comprising:
a delivery device which provides an initial-plurality of an initial-type of individual articles;
at least a first-accumulator mechanism which is automated to provide a first-plurality of a first-type of individual articles, said first-type of articles differing from said initial-type of articles;
at least a first-transport-device which moves said first-plurality of articles to a first packing location;
an automated assembly mechanism which is configured to operatively combine said first-plurality of articles with said initial-plurality of articles.
2. (original) An apparatus as recited in claim 1, wherein said assembly mechanism includes a co-packing mechanism which is further configured to operatively secure said initial-plurality of articles in combination with said first-plurality of articles.
3. (original) An apparatus as recited in claim 2, wherein
said assembly mechanism includes
an initial packing system which provides an initial package of said initial-type of articles;
and
a first transfer-device which is configured to move said first-plurality of articles into a first packing system to provide a first package of the first-type of articles; and
said co-packing mechanism is configured to operatively secure said first-package to said initial-package to provide a first co-package.
4. (original) An apparatus as recited in claim 1, further including
a second-accumulator mechanism which is automated to provide a second-plurality of a second-type of individual articles, said second-type of articles differing from said first-type of articles; and
a second transport-device for moving said second-plurality of articles to a second packing location;
wherein

said assembly mechanism is further configured to operatively combine said second-plurality of articles with said initial-plurality of articles.

5. (original) An apparatus as recited in claim 4, further including a co-packing mechanism which is configured to operatively secure said initial-plurality of articles in combination with said second-plurality of articles.

6. (original) An apparatus as recited in claim 4, wherein
said assembly mechanism includes

an initial packing system which provides an initial package of said initial-type of articles;
a first transfer-device which is configured to move said first-plurality of articles into a first packing system to provide a first package of the first-type of articles; and
a second transfer-device which is configured to move said second -plurality of articles into a second packing system to provide a second package of the second -type of articles;

a co-packing mechanism is configured to operatively secure said initial-plurality of articles in combination with said first-plurality of articles to provide a first co-package; and
said co-packing mechanism is further configured to operatively secure said second -package in combination with said first co-package.

7. (original) An apparatus as recited in claim 1, wherein said first accumulator mechanism is configured to accumulate said first-plurality of articles from a quantity of said first-type of articles, which are arranged as separate individual articles and have a disorderly, non-uniform orientation.

8. (original) An apparatus as recited in claim 1, wherein said first accumulator mechanism includes
an input mechanism which delivers a plurality of individual first-articles from a first article supply source into a first guide mechanism, and
a first alignment mechanism which orients a first article dimension of each first-article along a selected machine-direction.

9. (original) An apparatus as recited in claim 8, wherein said first accumulator mechanism includes a first metering drum.

10. (original) An apparatus as recited in claim 8, wherein said first accumulator mechanism includes a first directing slide.

11. (original) A method for accumulating different types of individual articles, said method comprising:

delivering an initial-plurality of an initial-type of individual articles;
automating a first-accumulator to provide a first-plurality of a first-type of individual articles, said first-type of articles differing from said initial-type of articles;
moving said first-plurality of articles to a first packing location;
operatively combining said first-plurality of articles with said initial-plurality of articles by employing an automated assembly mechanism.

12. (original) A method as recited in claim 11, wherein said operative combining of said first-plurality of articles with said initial-plurality of articles includes operatively securing said initial-plurality of articles in combination with said first-plurality of articles with a co-packing mechanism.

13. (original) A method as recited in claim 11, wherein said operative combining of said first-plurality of articles with said initial-plurality of articles includes:
an initial packing of said initial-type of articles to provide an initial package;
moving said first-plurality of articles into a first packing system to provide a first package of the first-type of articles; and
operatively securing said first-package to said initial-package to provide a first co-package.

14. (original) A method as recited in claim 11, further comprising:
providing a second-plurality of a second-type of individual articles, said second-type of articles differing from said first-type of articles;
moving said second-plurality of articles to a second packing location; and
operatively combining said second-plurality of articles with said initial-plurality of articles by employing said assembly mechanism.

15. (original) A method as recited in claim 14, further comprising operatively securing said initial-plurality of articles in combination with said second-plurality of articles by employing a co-packing mechanism.

16. (original) A method as recited in claim 14, wherein said operative combining of said first-plurality of articles with said initial-plurality of articles

Includes

an initial packing of said initial-type of articles to provide an initial package; and moving said first-plurality of articles into a first packing system to provide a first package of the first-type of articles; and

operatively securing said first-package to said initial-package to provide a first co-package; and

said operative combining of said second-plurality of articles with said initial-plurality of articles

includes

moving said second -plurality of articles into a second packing system to provide a second package of the second -type of articles; and

operatively securing said second -package in combination with said first co-package.

17. (original) A method as recited in claim 11, wherein the automating of said first-accumulator includes delivering a plurality of individual first-type of articles from a first article supply source into a first guide mechanism.

18. (original) A method as recited in claim 17, wherein the automating of said first-accumulator includes delivering said first-type of articles with a rotatable metering drum.

19. (original) A method as recited in claim 17, wherein the automating of said first-accumulator includes delivering said first-type of articles into a guide mechanism which includes a directing slide.

20. (original) A method as recited in claim 17, wherein the automating of the first-accumulator further includes orienting a first article dimension of each first-type of article along a selected machine-direction.